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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/855,921	05/15/2001	Dong-Feng Gu	00SC080US6	9461

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EXAMINER	
KEEHAN, CHRISTOPHER M	
ART UNIT	PAPER NUMBER
1712	6

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-6

Office Action Summary	Application No.	Applicant(s)	
	09/855,921	GU ET AL.	
	Examiner	Art Unit	
	Christopher M. Keehan	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 September 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) *7-33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I in Paper No. 5 is acknowledged. The traversal is on the ground(s) that, due to Applicant's amendment, there is now no distinction between Group I and Groups II-IV. This is not found persuasive because the layer of Group I does not have to be made by the process as indicated in Groups II-IV. For instance, Group II is drawn to a method for fabricating an alignment layer comprising polymerizing the layer. The invention of Group I, classified in 428/1.2, can be made by a materially different process, such as by non-polymerization or pre-polymerization. The process of Group III, classified in 427/407.1, is drawn to a method of forming an alignment layer comprising casting a layer on a previously formed alignment layer of a specified composition and alignment. The invention of Group I is an alignment layer, which can be used alone or in different methods, such as casting on a different type of layer. The invention of Group IV is drawn to a process for making an LCD compensator, classified in 430/20, comprising forming a first alignment layer, and forming another layer on this layer. The invention of Group I is an alignment layer, which can be used alone, or in a different method, such as forming something other than a compensator, or nothing at all, on the first alignment layer. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiota et al. (5,773,178). Shiota et al. disclose an alignment layer for a liquid crystal device comprising an epoxy and a reactive mesogen mixed with the epoxy (col.3, lines 30-56), the reactive mesogen comprising aligned liquid crystal molecules (col.3, lines 30-39).

Regarding claim 2, Shiota et al. do not teach or disclose the necessary inclusion of polyimides (entire document).

Regarding claim 3, Shiota et al. teach wherein the epoxy is UV curable (col.4, lines 48-67).

Regarding claim 4, Shiota et al. disclose a photo-initiator mixed with the epoxy (col.3, lines 54-57).

Regarding claim 5, Shiota et al. disclose methylhydroquinone and hydroquinone used in the composition (Example 1), which are known thermal inhibitors.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiota et al. (5,773,178). Shiota et al., as applied to claim 1 above, are as set forth and incorporated herein. Shiota et al. do not appear to disclose wherein the epoxy comprises between 10% and 80% by weight of the alignment layer. However, Shiota et al. do disclose that the polymerizable monomers can be present in from at least 25 mol% based on 100 mol% of polymerizable monomers (col.2, lines 23-28). It would have been obvious to one of ordinary skill in the art at the time the invention was made, as the claimed range of between 10% and 80% by weight of epoxy is so broad, and Applicant has shown no criticality as to an amount outside of this broad range, to have added the epoxy in a variety of amounts, including that as instantly claimed, through routine experimentation and optimization. It has been held that where the general conditions are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller, 105 USPQ 233, 235.*

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Keehan whose telephone number is (703) 305-2778. The examiner can normally be reached on Monday-Friday, from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Dawson can be reached on 308-2340. The fax phone numbers

for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Christopher Keehan

October 30, 2002

Robert Dawson
Supervisory Patent Examiner
Technology Center 1700